Please cancel Claim 4, without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 1 and 10-18, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

1. (Currently Amended): A method of compressing image data into a fixed size memory, the image data being encoded using a discrete cosine transformation and arranged into a plurality of scans of bitstream data, the plurality of scans being ordered from a perceptually most significant scan to a perceptually least significant scan, the method comprising the steps of:

determining whether the scans are a DC most significant scan or not;

determining whether the scans are active or inactive based on an attribute associated with each of the scans, the attribute being separate from the scan and identifying whether the scan is either active or inactive, wherein the active scan is to be encoded and the inactive scan is not to be encoded;

encoding, if the scans are a DC most significant scan, the determined active scans of bitstream data encoded using the discrete cosine transformation and discarding the determined inactive scans without encoding the inactive scans, wherein said encoding comprises entropy encoding the current scan of bitstream data, if the attribute of the current scan is active, and otherwise proceeding to a next scan of bitstream data;

transferring the encoded scan bitstream data to the fixed size memory; and

setting, if the fixed size memory becomes full, the attribute of a currently least significant scan of the active scans to inactive.

2.   (Previously Presented) A method according to claim 1, wherein the method further comprises the step of:

deleting, if the fixed size memory becomes full, the encoded scan bit-stream data of the currently least significant scan.

3. - 4.   (canceled).

5.   (Previously Presented) A method as claimed in claim 1, wherein the encoding step further comprises the step of:

accessing a scan of bitstream data for encoding in accordance with a scan map.

6.   (Previously Presented) A method as claimed in claim 1, wherein the image data comprises a plurality of quantizing 8x8 blocks of DCT transformed image data, and wherein the scans comprise, at least for each color component of the quantizing DCT transformed image data, two scans for the two least insignificant bitplanes of the group of AC coefficients 1 to 32, and two scans for the two least insignificant bitplanes of the group of AC coefficients 33 to 63.

7. (Previously Presented) A method according to claim 1 wherein the scans comprise DC most-significant scans, DC refinement scans, AC most-significant scans, and AC refinement scans.

8. (Previously Presented) A method according to claim 7, wherein one of the DC most-significant scans is the perceptually most significant scan and one of the AC refinement scans is the perceptually least significant scan.

9. (Previously Presented) A method according to claim 2, wherein the image data comprises a plurality of color components and said deleting step includes deleting corresponding encoded scan bit-stream data of more than one color component.

10. (Currently Amended): A method of compressing image data into a fixed size memory, the method comprising the steps of:

partitioning the image data into scans of bitstream data encoded using a discrete cosine transformation, wherein the scans are ordered from a perceptually most significant scan to a perceptually least significant scan;

determining whether the scans are a DC most significant scan or not;

determining whether the scans are active or inactive based on an attribute associated with each of the scans, the attribute being separate from the scan and identifying whether the scan is either active or inactive, wherein the active scan is to be encoded and the inactive scan is not to be encoded;

encoding, if the scans are a DC most significant scan, the determined active scans

of bitstream data encoded using the discrete cosine transformation and discarding the

determined inactive scans without encoding the inactive scans, wherein said encoding

comprises entropy encoding the current scan of bitstream data, if the attribute of the current

scan is active, and otherwise proceeding to a next scan of bitstream data;

transferring the encoded scan bitstream data to the fixed size memory; and

setting, if the fixed size memory becomes full, the attribute of a currently least

significant scan of the active scans to inactive.

11. (Currently Amended): A method of storing coded image data of an image in a

storage of fixed memory size, wherein the image comprises a plurality of pixels and the

method comprises the steps of:

arranging the image into a plurality of bands each comprising a predetermined

number N of consecutive lines of pixels;

buffering and processing the bands one by one in turn, wherein said processing step

comprises the following sub-steps for each currently buffered band:

arranging the current band into a plurality of blocks of pixels of size MxM, wherein

M is equal to the predetermined number N; and

transforming the blocks of pixels using a discrete cosine transformation to produce

respective blocks of transform coefficients;

partitioning the blocks of transform coefficients into a plurality of partitions

wherein each partition comprises data from each block of transform coefficients and at

least one partition comprises data from at least one but not all bit-planes of each block of

transform coefficients, and wherein the plurality of partitions comprise a perceptually significant partition and a perceptually insignificant partition and partitions of varying perceptual significance therebetween, and wherein each of the partitions have associated therewith a corresponding attribute separate from the partition and identifying whether the partition is active or inactive, wherein the active partition is to be encoded and the inactive partition is not to be encoded;

entropy coding, if the partitions are a perceptually significant partition, each active partition of the blocks of transformed coefficients while discarding the inactive partitions without encoding the inactive partitions, wherein said entropy coding comprises entropy encoding the current scan of bitstream data, if the attribute of the current scan is active, and otherwise proceeding to a next scan of bitstream data; and

storing the entropy coded partitions in the storage of fixed memory size, wherein, during the storing of the entropy coded partitions, if it is determined that the storage is full, a coded least perceptually significant partition currently stored in the storage is overwritten by data from a coded more perceptually significant partition, and the attribute of the overwritten perceptually least significant partition is set to inactive.

12. (Currently Amended): Apparatus for compressing image data into a fixed size memory, the image data being encoded using a discrete cosine transformation and arranged into a plurality of scans of bitstream data, the plurality of scans comprising a perceptually most significant scan to a perceptually least significant scan, the apparatus comprising:

means for determining whether the scans are a DC most significant scan or not;

means for determining whether the scans are active or inactive based on an attribute associated with each of the scans, the attribute being separate from the scan and identifying whether the scan is either active or inactive, wherein the active scan is to be encoded and the inactive scan is not to be encoded;

means for encoding, if the scans are a DC most significant scan, the determined active scans of bitstream data encoded using the discrete cosine transformation and discarding the determined inactive scans without encoding the inactive scans, wherein said encoding comprises entropy encoding the current scan of bitstream data, if the attribute of the current scan is active, and otherwise proceeding to a next scan of bitstream data;

means for transferring the encoded scan bitstream data to the fixed size memory; and

means for setting, if the fixed size memory becomes full, the attribute of a currently least significant scan to inactive, wherein the inactive scans are not encoded.

13. (Currently Amended): Apparatus for compressing image data into a fixed size memory, the apparatus comprising:

means for partitioning the image data into scan bitstream data encoded using a discrete cosine transform, wherein the scans are ordered from a perceptually most significant scan to a perceptually least significant scan;

means for determining whether the scans are a DC most significant scan or not;

means for determining whether the scans are active or inactive based on an attribute associated with each of the scans, the attribute being separate from the scan and identifying

whether the scan is either active or inactive, wherein the active scan is to be encoded and the inactive scan is not to be encoded;

means for encoding, if the scans are a DC most significant scan, the determined active scans of bitstream data encoded using the discrete cosine transformation and discarding the determined inactive scans without encoding the inactive scans, wherein said encoding comprises entropy encoding the current scan of bitstream data, if the attribute of the current scan is active, and otherwise proceeding to a next scan of bitstream data;

means for transferring the encoded scan bitstream data to the fixed size memory; and

means for setting, if the fixed size memory becomes full, the attribute of a currently least significant scan of the active scans to inactive.

14. (Currently Amended): Apparatus for storing coded image data of an image in a storage of fixed memory size, wherein the image comprises a plurality of pixels and the apparatus comprises:

means for arranging the image into a plurality of bands each comprising a predetermined number N of consecutive lines of pixels;

means for buffering and processing the bands one by one in turn, wherein the processing means comprises:

means for arranging a currently buffered band into a plurality of blocks of pixels of size MxM, wherein M is equal to said predetermined number N; and

means for transforming the blocks of pixels using a discrete cosine transformation to produce respective blocks of transform coefficients;

means for partitioning the blocks of transform coefficients into a plurality of partitions wherein each partition comprises data from each block of transform coefficients and at least one partition comprises data from at least one but not all bit-planes of each block of transform coefficients, and wherein the plurality of partitions comprise a perceptually significant partition and a perceptually insignificant partition and partitions of varying perceptual significance there between, and wherein each of the partitions have associated therewith a corresponding attribute separate from the partition and identifying whether the partition is active or inactive, wherein the active partition is to be encoded and the inactive partition is not to be encoded;

means for entropy coding, if the partitions are a perceptually significant partition, each active partition of the blocks of transform coefficients and discarding each inactive partition without encoding the inactive partitions, wherein said encoding comprises entropy encoding the current scan of bitstream data, if the attribute of the current scan is active, and otherwise proceeding to a next scan of bitstream data; and

means for storing the entropy coded partitions in the storage of fixed memory size, wherein during the storing of the entropy coded partitions, if it is determined that the storage is full a coded least perceptually significant partition currently stored in the storage is overwritten by data from a coded more perceptually significant partition, and the attribute of the overwritten perceptually least significant partition is set to inactive.

15. (Currently Amended):   A computer program product comprising computer readable program code recorded on a machine-readable recording medium, for controlling the operation of a data processing apparatus on which the program code executes to

- 9 -

perform a method of compressing image data into a fixed size memory, the image data being encoded using a discrete cosine transformation and arranged into a plurality of scans of bitstream data, the plurality of scans ordered from a perceptually most significant scan to a perceptually least significant scan, the method comprising the steps of:

determining whether the scans are a DC most significant scan or not;

determining whether the scans are active or inactive based on an attribute associated with each of the scans, the attribute being separate from the scan and identifying whether the scan is either active or inactive, wherein the active scan is to be encoded and the inactive scan is not to be encoded;

encoding, if the scans are a DC most significant scan, the determined active scans of bitstream data encoded using the discrete cosine transformation and discarding the determined inactive scans without encoding the inactive scans, wherein said encoding comprises entropy encoding the current scan of bitstream data, if the attribute of the current scan is active, and otherwise proceeding to a next scan of bitstream data;

transferring the encoded scan bitstream data to the fixed size memory; and

setting, if the fixed size memory becomes full, the attribute of a currently least significant scan of the active scans to inactive.

16. (Currently Amended): A computer program product comprising computer readable program code recorded on a machine-readable recording medium, for controlling the operation of a data processing apparatus on which the program code executes to perform a method of compressing image data into a fixed size memory, the method comprising the steps of:

partitioning the image data into scans of bitstream data encoded using a discrete

cosine transformation, wherein the scans are ordered from a perceptually most significant

scan to a perceptually least significant scan;

determining whether the scans are a DC most significant scan or not;

determining whether the scans are active or inactive based on an attribute associated

with each of the scans, the attribute being separate from the scan and identifying whether

the scan is either active or inactive, wherein the active scan is to be encoded and the

inactive scan is not to be encoded;

encoding, if the scans are a DC most significant scan, the determined active scans

of bitstream data encoded using the discrete cosine transformation and discarding the

determined inactive scans without encoding the inactive scans, wherein said encoding

comprises entropy encoding the current scan of bitstream data, if the attribute of the current

scan is active, and otherwise proceeding to a next scan of bitstream data;

transferring the encoded scan bitstream data to the fixed size memory; and

setting, if the fixed size memory becomes full, the attribute of a currently least

significant scan of the active scans to inactive.

17. (Currently Amended): A computer program product comprising computer

readable program code recorded on a machine-readable recording medium, for controlling

the operation of a data processing apparatus on which the program code executes to

perform a method of storing coded image data of an image in a storage of fixed memory

size, wherein the image comprises a plurality of pixels and the method comprises the steps

of:

arranging the image into a plurality of bands each comprising a predetermined number N of consecutive lines of pixels;

buffering and processing the bands one by one in turn, wherein the processing step comprises the following sub-steps for each currently buffered band:

arranging the current band into a plurality of blocks of pixels of size MxM, wherein M is equal to said predetermined number N; and

transforming using a discrete cosine transformation the blocks of pixels to produce respective blocks of transform coefficients;

partitioning the blocks of transform coefficients into a plurality of partitions, wherein each partition comprises data from each block of transform coefficients and at least one partition comprises data from at least one but not all bit-planes of each block of transform coefficients, the plurality of partitions comprise a perceptually significant partition and a perceptually insignificant partition and partitions of varying perceptual significance therebetween, and each of the partitions have associated therewith a corresponding attribute separate from the partition and identifying whether the partition is active or inactive;

entropy coding each active partition and discarding the inactive partitions without encoding the inactive partitions if the partitions are a perceptually significant partition, wherein said encoding comprises entropy encoding the current scan of bitstream data, if the attribute of the current scan is active, and otherwise proceeding to a next scan of bitstream data; and

storing the entropy coded partitions in the storage of fixed memory size, wherein, during the storing of said entropy coded partitions, if it is determined that the storage is

full, a coded least perceptually significant partition currently stored in the storage is overwritten by data from a coded more perceptually significant partition, and the attribute of the overwritten perceptually least significant partitions is set to inactive.

18. (Currently Amended): A system for compressing image data encoded using a discrete cosine transformation and arranged into a plurality of scans of bitstream data, the plurality of scans being ordered from a perceptually most significant scan to a perceptually least significant scan, the system comprising:

a fixed-size memory;

a storage unit for storing information relating to the scans, the information comprising an attribute associated with and separate from each scan to identify the scan as active or inactive; and

a processor connected to said fixed-size memory and said storage unit and adapted to compress the image data into said fixed-size memory, wherein said processor:

determines whether the scans are a DC most significant scan or not;

determines whether the scans are active or inactive based on the corresponding attribute, wherein an active scan is to be encoded and an inactive scan is not to be encoded;

encodes, if the scans are a DC most significant scan, the determined active scans of bitstream data encoded using the discrete cosine transformation and discards the determined inactive scans without encoding the inactive scans, wherein said encoding comprises entropy encoding the current scan of bitstream data, if the attribute of the current scan is active, and otherwise proceeding to a next scan of bitstream data;

- 13 -

transfers the encoded scan bitstream data to the fixed size memory; and

sets, if the fixed size memory becomes full, the attribute of a currently least

significant scan of the active scans to inactive, wherein the inactive scans are not encoded.